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AA 6061**Category** Aluminum Alloy**Class** Wrought**Composition**

Element	Weight %
Al	97.9
Si	0.60
Cu	0.28
Mg	1.0
Cr	0.20

Mechanical Properties

Properties		Conditions	
		T (°C)	Treatment
Density ($\times 1000 \text{ kg/m}^3$)	2.7	25	
Poisson's Ratio	0.33	25	
Elastic Modulus (GPa)	70-80	25	
Tensile Strength (Mpa)	115		
Yield Strength (Mpa)	48		
Elongation (%)	25	25	O (Alclad) more
Reduction in Area (%)			
Hardness (HB500)	30	25	O more
Shear Strength (MPa)	83	25	O more
Fatigue Strength (MPa)	62	25	O more

Thermal Properties

Properties		Conditions	
		T (°C)	Treatment
Thermal Expansion ($10^{-6}/^{\circ}\text{C}$)	23.4	20-100	
Thermal Conductivity (W/m-K)	180	25	O more

Electric Properties

Properties		Conditions	
		T (°C)	Treatment
Electric Resistivity (10^{-9}W-m)	37	25	O more

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AA 5083

Category Aluminum Alloy

Class Wrought

Composition

Element	Weight %
Al	94.7
Mn	0.7
Mg	4.4
Cr	0.15

Mechanical Properties

Properties	Conditions	
	T (°C)	Treatment
Density (×1000 kg/m ³)	2.66	25
Poisson's Ratio	0.33	25
Elastic Modulus (GPa)	70-80	25
Tensile Strength (Mpa)	305	
Yield Strength (Mpa)	195	
Elongation (%)	25	H112 more
Reduction in Area (%)		
Shear Strength (MPa)	170	25 O
Fatigue Strength (MPa)	160	25 H321

Thermal Properties

Properties	Conditions	
	T (°C)	Treatment

Thermal Expansion ($10^{-6}/^{\circ}\text{C}$)	23.4	20-100	
Thermal Conductivity (W/m-K)	120	25	All

Electric Properties

Properties	Conditions		
	T ($^{\circ}\text{C}$)	Treatment	
Electric Resistivity (10^{-9}W-m)	60	25	All

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AA 5052

Category Aluminum Alloy

Class Wrought

Composition

Element Weight %

Al 97.2

Mg 2.5

Cr 0.25

Mechanical Properties

Properties	Conditions	
	T (°C)	Treatment
Density (×1000.kg/m ³)	2.68	25
Poisson's Ratio	0.33	25
Elastic Modulus (GPa)	70-80	25
Tensile Strength (Mpa)	230	
Yield Strength (Mpa)	195	
Elongation (%)	12	25 H32 more
Reduction in Area (%)		
Hardness (HB500)	60	25 H32 more
Shear Strength (MPa)	140	25 H32 more
Fatigue Strength (MPa)	115	25 H32 more

Thermal Properties

Properties	Conditions	
	T (°C)	Treatment

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Thermal Expansion ($10^{-6}/^{\circ}\text{C}$)	23.8	20-100	
Thermal Conductivity (W/m-K)	137	25	H38 more

Electric Properties

Properties	Conditions	
	T ($^{\circ}\text{C}$)	Treatment
Electric Resistivity (10^{-9}W-m)	49	25 H38 more

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AA 3003

Category Aluminum Alloy

Class Wrought

Composition

Element	Weight %
Al	98.6
Cu	0.12
Mn	1.2

Mechanical Properties

Properties	Conditions		
	T (°C)	Treatment	
Density (×1000 kg/m ³)	2.73	25	
Poisson's Ratio	0.33	25	
Elastic Modulus (GPa)	70-80	25	
Tensile Strength (Mpa)	130		
Yield Strength (Mpa)	125		
Elongation (%)	10	25	H12 more
Reduction in Area (%)			
Hardness (HB500)	35	25	H12 more
Shear Strength (MPa)	83	25	H12 more
Fatigue Strength (MPa)	55	25	H12 more

Thermal Properties

Thermal Expansion ($10^{-6}/^{\circ}\text{C}$)	23.2	20-100	
Thermal Conductivity (W/m \cdot K)	162	25	H12 more

Electric Properties

Properties	Conditions		
	T ($^{\circ}\text{C}$)	Treatment	
Electric Resistivity ($10^{-9}\text{W}\cdot\text{m}$)	41	25	H12 more

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AA 1100

Category Aluminum Alloy**Class** Wrought

Composition

Element **Weight %**

Al 99.00 (min)

Cu 0.12

Mechanical Properties

	Properties	Conditions	
		T (°C)	Treatment
Density (×1000 kg/m ³)	2.71	25	
Poisson's Ratio	0.33	25	
Elastic Modulus (GPa)	70-80	25	
Tensile Strength (Mpa)	110		
Yield Strength (Mpa)	105		
Elongation (%)	12	25	H12 more
Reduction in Area (%)			
Hardness (HB500)	28	25	H12 more
Shear Strength (MPa)	69	25	H12 more
Fatigue Strength (MPa)	41	25	H12 more

Thermal Properties

Properties**Conditions**

T (°C)

Treatment

Thermal Expansion ($10^{-6}/^{\circ}\text{C}$)	23.6	20-100	
Thermal Conductivity (W/m-K)	218	25	H18 more

Electric Properties

Properties	Conditions		
	T ($^{\circ}\text{C}$)	Treatment	
Electric Resistivity (10^{-9}W-m)	30	25	H18 more

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AA 1050**Category** Aluminum Alloy**Class** Wrought**Composition****Element** **Weight %**

Al 99.50 (min)

Mechanical Properties

Properties	Conditions	
	T (°C)	Treatment
Density ($\times 1000 \text{ kg/m}^3$)	2.6-2.8	25
Poisson's Ratio	0.33	25
Elastic Modulus (GPa)	70-80	25
Tensile Strength (Mpa)	110	
Yield Strength (Mpa)	105	
Elongation (%)	25	H14 more
Reduction in Area (%)		
Shear Strength (MPa)	69	25 H14 more

Thermal Properties

Properties	Conditions	
	T (°C)	Treatment
Thermal Conductivity (W/m-K)	231	25 O

Electric Properties

Properties **Conditions**

		T (°C)	Treatment
Electric Resistivity ($10^{-9}\Omega\cdot m$)	28	25	O

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